THILAN TRAN

thilantran.com

thilan-tran
thilantran@ucla.edu

EDUCATION:

University of California, Los Angeles **September 2018—June 2022** *(exp.)*
B.S. Computer Science and Engineering *3.94 Major GPA*

Relevant Coursework

- Computer Networks, Databases, Web Applications
- Programming Languages, Compilers
- Operating Systems, Computer Architecture
- Algorithms, Formal Languages and Automata
- Neural Networks and Deep Learning, AI
- Digital Systems Design (FGPAs), Circuit Design

EXPERIENCE

Facebook — Frontend Engineering Intern **Summer 2021**

- On the AI and Data Developer Experience Team, received a **Greatly Exceeds (GE)** expectations performance rating.
- Working with the full stack, built a lifecycle visualization for proposals made in concurrent model development.
  - Implemented queries in **Hack (PHP)** and collaborated with several teams to define a new notion of proposal lifecycle by consolidating data model attributes into a meaningful view of the state of each lifecycle stage.
  - Created a unique timeline view to illustrate ordered steps as well as concurrent stages in the pipeline.
  - Designed expressive hover cards in **React** to surface useful statistics, information, and errors for each stage.
- Created a dashboard for ML engineers to use as part of the concurrent model development pipeline at Facebook.
  - Wrote **GraphQL** queries to fetch new data entities to render in tables, and GraphQL field implementations to realize complex many-to-one relationships between outputs in separated stages of the pipeline.
- Made an effort to promote better engineering by reducing code duplication across the broader ML DevX team.
  - Wrote a shared table component in **Flow (TypeScript)** using type parameterization where each column is defined as a GraphQL fragment, allowing for flexible and extensible columns and dynamic data fetching.

Walmart Labs — Software Engineering Intern **Summer 2020**

- On the Cart and Checkout Platform Team, created the Dev Assistant, a plugin facilitating debugging React and Redux apps using a “state trace” feature.
  - Acquired external access to state stores by traversing through React Fiber nodes and DOM element trees.
  - Recorded **Redux** state history and dispatched actions in an informative, *replayable* timeline written in **React**.
  - Spoofed Redux actions and set store state without Redux DevTools or requiring source code changes.

DevX (UCLA CS Organization) — Frontend Lead **Fall 2019—Summer 2020**

- Led the frontend team for the Twain project, a “smart-scheduler” browser extension integrated with the **Google Calendar API** designed to optimize and schedule task lists automatically using scheduling algorithms.
  - Created a UX-driven design in **React** for seamless switching between creating, scheduling, and editing tasks.
  - Implemented designer mockups for the entire project in pure **CSS**, without using UI styling libraries.

PROJECTS:

Java Compiler **Winter 2020**

- Wrote a compiler for translating a substantial subset of Java to RISC-V in **Java** from scratch, complete with register allocation and support for objects, inheritance, polymorphism, and generics.
  - Used the visitor design pattern and **object-oriented programming** paradigms extensively in implementation.

EEG Movement Imagery Dataset Classification **Winter 2020**

- Trained a deep learning model on EEG dataset recording brain signals labelled by movement to classify actions.
  - Iterated on various architectures with CNNs and RNNs using **Tensorflow** and achieved a testing accuracy of 78.1% improving on the 67.8% of another CNN architecture reported in this paper: archiv.org/1703.05051.pdf

Terreform — terreform.herokuapp.com **Fall 2019**

- Collaborated with a team to build a donation website for nonprofits fighting climate change featuring interactive 3D environments rendered with **three.js** that evolve over time as users donate.
  - Connected three.js with frontend events in **JavaScript** so each donation has a matching interactive object.

Restock — restock-app.herokuapp.com **Summer 2019**

- Created and deployed a full-stack, stock trading simulator on **Heroku** using websockets for instant updates.
  - Wrote a **React** frontend where users can simulate transactions, track stocks, and view user leaderboards.
  - Implemented the backend in **Python** using **Flask** and **SQLAlchemy** as an ORM database technology.
  - Integrated **websocket** capabilities with **SocketIO** to push instant, real-time notifications to all clients.

SKILLS:

- *Languages* — JavaScript, PHP, C/C++, Java, Python, Bash, CSS, SQL
- *Frameworks/Tools* — React, Redux, GraphQL, TypeScript, Node.js, Flask, Git, UNIX, NumPy, Tensorflow